

09/937,414

**REMARKS**

Claims 10-21 are pending. The Applicants respectfully request the Examiner to reconsider the rejections in view of amendments to the claims now presented and the following remarks:

**Amendments to the Specification**

The Applicants have discovered several mistakes in the translation of the corresponding §371 International Application, PCT/JP00/02034, from which the instant application is derived. In view of the disclosure of PCT/JP00/02034 the Applicants attest to the fact that no new matter is presented to the specification by these amendments.

**Rejections under 35 USC §112, paragraph 1**

The Examiner has alleged that the subject matter of claims 10-15 and 18-19 is not enabled under 35 USC §112 ¶1 in view of the written description.

Claim 10, for example, is now drawn toward a method for ameliorating cutaneous inflammation in a mammal comprising administering an effective amount of a compound of the present invention. Claim 12 is more specifically drawn toward a method for ameliorating inflammation caused by ultraviolet light. Claim 14 is drawn toward a method for ameliorating the deposition of pigment in the skin.

The Applicants particularly demonstrate in the Examples, using models well-accepted in the art, that chromanol glycosides are suitable for external use, similar to vitamin E, but indeed possesses superior properties for the treatment of dermatological conditions. Toward the issue of enablement, the Applicants have unambiguously demonstrated valuable pharmacological properties of the chromanol glycosides of the present invention. Particularly, compound of the invention are demonstrated to exhibit preventative effects of reducing IL-1 $\alpha$  production *but also* curing (treatment) effects of reducing IL-1 $\alpha$ . The Applicants respectfully emphasize to the Examiner that the Specification illustrates and confirms the effect of repressing the cytokine IL-1 $\alpha$  otherwise induced by ultraviolet light (UVB), for example, at line 1, page 24 – page 26, line 16. The results shown in Table 2 moreover clearly indicate to one of skill in the art that the administration of a composition of the present invention *prior to* the irradiation with the ultraviolet light repressed the production of the inflammatory cytokine (IL-1 $\alpha$ ). Furthermore, the

09/937,414

administration of compositions of the present invention *subsequent to* the irradiation with the ultraviolet light indeed represses the production of the cytokine (IL-1 $\alpha$ ). In sharp contrast, the general antioxidants, i.e., ascorbic acid and glutathione did not repress the production of the cytokine (IL-1 $\alpha$ ). Further, the test for the effect of allaying the sedimentation of pigment induced by the ultraviolet light described at line 17, page 26 – line 23, page 27 of the specification was intended to investigate the effect of lightening the part of the sedimentation of pigment induced in consequence of the irradiation with the ultraviolet light. It is clear from Table 3 that the chromanol glycoside (TMG) significantly lightens the pigment sedimented by the ultraviolet light. No antioxidant has been known to possess this lightening action. The test for confirming the effect of promoting the growth of cells described at line 24, page 27 – line 8, page 29 of the specification has unambiguously demonstrated that the chromanol glycoside (TMG) possesses an action of significantly promoting the growth of cells as clearly noted from the results of Table 4. No antioxidant has been known to possess this action. This newly identified pharmacological function of the compositions of the present invention is not ascribable to antioxidation activity.

It is not necessary to specify the dosage or method of use if it is known to one skilled in the art that such information could be obtained by routine experimentation. Since the Applicants' chromanol glycosides are related to vitamin E and nontoxic - one of skill in the art would reasonably expect the administration thereof to be straightforward. If one skilled in the art, based on knowledge of compounds having similar physiological or biological activity, would be able to discern an appropriate dosage or method of use without undue experimentation, this would be sufficient to satisfy 35 USC§112 ¶1.<sup>1</sup> See also, MPEP §2107.01 and §2107.03.

The Applicants accordingly respectfully request the Examiner to withdraw the rejection.

---

<sup>1</sup> That some experimentation is required to practice the claimed invention is permissible, so long as it is not undue. The evidence provided by applicant need not be conclusive but merely convincing to one skilled in the art. Atlas Powder Co. v. E.I. DuPont De Nemours & Co., 750 F.2d 1569, 1576, 224 USPQ 409, 413; The specification need not contain an example if the invention is otherwise disclosed in such manner that one skilled in the art will be able to practice it without an undue amount of experimentation. In re Borkowski, 422 F.2d 904, 908, 164 USPQ 642, 645.

09/937,414

**Rejections under 35 USC §103**

The Applicants respectfully highlight to the Examiner that the disclosure of Kennedy, *et al.*, '445 is limited to alkylaryl polyether alcohol polymer tyloxapol for the treatment of *respiratory* conditions. Indeed, alkylaryl polyether alcohol polymer tyloxapol is taught to be an efficacious antioxidant for aerosol treatment of *respiratory* diseases (to protect from airway injury by HOCl/OCI). However, in sharp contrast to methods of the present invention, the '445 disclosure is not related in any way to the treatment of *dermatological* conditions.

To establish a *prima facie* case of obviousness, the prior art reference (or references when combined) must teach or suggest all the claim limitations.<sup>2</sup> However, Kennedy, *et al.*, does not teach compositions (i.e., chromanol glycosides) *or* methods of use of any composition to control dermatological conditions. Although, Murase, *et al.*, '812 teach chromanol glycosides, the compounds are not described or contemplated in any way for use in controlling dermatological conditions. As the Examiner is also surely aware, a new use of a known composition is indeed patentable provided, for example, a longfelt need is present and/or unexpected results are demonstrated. In this case the Applicants demonstrate both.

The Applicants particularly demonstrate in the Examples, using models well-accepted in the art, that chromanol glycosides are suitable for external use, similar to the antioxidant vitamin E, but indeed possesses superior properties for the treatment of dermatological conditions. As stated *supra*, the Specification illustrates the effect of repressing the cytokine IL-1 $\alpha$  induced by *ultraviolet light* (UVB). However, the general antioxidants did not repress the production of the cytokine (IL-1 $\alpha$ ). Further, it is clear from Table 3 that the chromanol glycoside (TMG) significantly lightens the pigment sedimented by the ultraviolet light. No antioxidant has been known to possess this lightening action. Chromanol glycoside (TMG) moreover possesses the previously unknown property of promoting the growth of cells as clearly noted from the results of Table 4. No antioxidant has been known to possess this action. These newly identified pharmacological function of the compositions of the present invention are not ascribable to antioxidation activity.

<sup>2</sup> The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

09/937,414

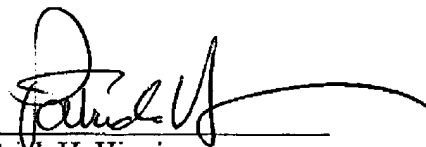
The Applicants accordingly respectfully request the Examiner to withdraw the rejections.

\* \* \*

For all the foregoing reasons, the Applicants submit that claims 10-21 are in condition for allowance. Early action toward this end is courteously solicited. The Examiner is kindly encouraged to telephone the undersigned in order to expedite any detail of the prosecution.

The Commissioner is authorized to treat this response requiring a petition for an extension of time under 37 CFR 1.136 for its timely submission, as incorporating a petition for extension of time for the appropriate length of time. The Commissioner is authorized to charge any deficiency or credit any overpayment in connection herewith to Deposit Account No. 13-2165.

Respectfully submitted,



Patrick H. Higgins  
Reg. No. 39,709  
Attorney for Applicants

Date: March 30, 2004

MATHEWS, COLLINS, SHEPHERD & McKAY, P.A.  
100 Thanet Circle, Suite 306  
Princeton, New Jersey 08540-3662  
Telephone: (609) 924-8555  
Telecopier: (609) 924-3036